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ABSTRACT

This paper presents a description of the Australian University Teaching Committee (AUTC) funded project titled: "Information and Communication Technologies (ICTs) and Their Role in Flexible Learning" that aims to provide opportunities for university teachers to create high quality flexible learning experiences for students. This is to be accomplished by the development of a range of software tools and templates based on previously successful ICT-based learning projects in a form that will enable teachers in other settings and subject areas to create similar learning environments for their students. The project is a two-year endeavor and began in November 2000. The purpose of this paper is to describe the expectations and outcomes of the project and to give an update of what has been achieved so far. Following an introduction, the first section summarizes the aim of the project. The second section describes project structure. The third section covers development of the Evaluation and Redevelopment Framework (ERF), including characteristics of high quality learning (engaging learners, acknowledging context, challenging learners, and involving practice) and developing the ERF instrumentation. The fourth section discusses the next stage of the project. (Contains 29 references.) (Author/MES)

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DEVELOPING GENERIC TOOLS FOR USE IN FLEXIBLE LEARNING: A PRELIMINARY PROGRESS REPORT

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Abstract

This paper presents a description of the Australian University Teaching Committee (AUTC) funded project titled: "Information and Communication Technologies (ICTs) and Their Role in Flexible Learning" that aims to provide opportunities for university teachers to create high quality flexible learning experiences for students. This is to be accomplished by the development of a range of software tools and templates based on previously successful ICT-based learning projects in a form which will enable teachers in other settings and subject areas to create similar learning environments for their students.

The project is a two-year endeavour and began in November 2000. The purpose of this paper is to describe the expectations and outcomes of the project and to give an update of what has been achieved so far.

Keywords

learning designs, learning design templates, reusable learning objects, higher education

Introduction

A dominant theme in the discourse about higher education over the last decade is that universities are, or should be, in a process of change (Collis, 1998; Cunningham, Tapsall, Ryan, Stedman, Bagdon & Flew, 1998; p. 5). Perhaps the most significant change that is occurring within universities, particularly in Australia, is the "rush to embrace flexible and alternative teaching and learning approaches and delivery methods" (Corderoy, 1998; p. v). As Nicoll (1998; p. 301) states, "flexibility in learning has come to the fore as a newly dominant metaphor within the Australian university sector".

A review of the following literature (Baldwin, 1991; Collis, 1998b; Cunningham, 1998; Cunningham et al. 1998; Flew, 1998; MackNight, 1996; McNaught, 1998; Nicoll, 1998), suggests that the driving factors for change within universities coalesce into the following set of interrelated issues:

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1. The changing nature of the "university" and its client market;
2. Economic and government policy pressures;
3. The growing capability and importance of information and communication technologies (ICTs); and
4. A growing sophistication in understanding of how students learn.

There tends to be general consensus among experts that the forms of learning environments most effective for meaningful learning in higher education are those that are based on the contemporary theories of learning which support knowledge construction through learner-centred settings (e.g. Duffy & Cunningham, 1996; Bostock, 1998). These perspectives about learning are challenging conventional teaching approaches. For example, Cunningham et al. (1998) state:

> The growing acceptance of new educational philosophies and practices, such as constructivism and action learning during the 1980s, have challenged the valence of the didactic lecture/tutorial/textbook model common in higher education, promoted the notions of the academic role as 'a guide on the side' rather than 'the sage on stage', and conceived of the student role as one of independent self-directed learner. (p. 25)

The growing awareness of effective and meaningful teaching and learning plus the recent developments in ICT has led to synergies emerging between the use of ICT and the adoption of powerful learning strategies. The Web is one technology that shows particular promise for supporting meaningful learning through its remarkable functionality, support for flexible delivery modes and capacity to link and connect those involved in the learning process (e.g. Duschatel & Spahn, 1996; Levin, 1999). The possibilities exist for rich learning based on this technology, but for the most part, pedagogically sound and exciting Web courseware tools have yet to be developed to take advantage of such opportunities.

One of the key issues is that the pace of change of emerging Web technologies is so rapid that pedagogical models may be needed to help create Web tools from a learner-centred perspective (Bracewell, Breuleux, Laferrière, Benoit & Abdous, 1998). Salomon (1998) has supported this concern and has noted that for the first time in history, technologies are outpacing pedagogical and psychological rationale. However, a body of literature is starting to report on innovative tools, with strong pedagogical underpinning. Bonk and Cummings (1998) have reported on interactive tools for online portfolio feedback, profile commenting, and Web link rating, while Oliver and McLoughlin (1999) are building tools for online debate, reflection, concept mapping and student surveying and discussion.

The uptake of ICT as a delivery medium for mainstream teaching has been slow and a number of factors have emerged in the past as impediments to the successful uptake of ICT in any educational setting. These include:

1. A lack of access to appropriate ICT infrastructure for learning purposes (e.g. Green, 1998);
2. A lack of ICT literacy among academics and teachers (e.g. Collis, 1998);
3. Poor pedagogical understanding and beliefs (e.g. Gold, 1999);
4. Insufficient and inadequate ICT-based exemplars and cases for academics to model (e.g. Tsichritzis, 1999);
5. Dearth of appropriate instructional materials and software for classroom applications. (e.g. Mioduser, Nachmias, Oren & Lahav, 1999).

Current settings hold fewer impediments to ICT uptake than have been present in the past. Universities within Australia have moved swiftly in recent years to develop the necessary infrastructure to support ICT as a delivery medium and most universities now boast a solid ICT infrastructure aimed at supporting teaching and learning programs. The uptake of ICT as a delivery medium has been supported by professional development programs and activities aiming to develop the ICT literacy of staff plus clearinghouses and Web sites for dissemination of information about ICT in teaching. Funding has been applied by government sources to support

the development of university teaching and learning and many organisations now exist that support and promote quality teaching as a scholarly pursuit. Among the major impediments that still stand are the lack of quality teaching and learning models and appropriate instructional material and software for teachers to apply.

This project aims to provide some relief to these impediments by identifying and creating quality resources for generic and mainstream application and by providing appropriate support and resources that will guide and encourage their use. Projects of this type, which support the current trends, should result in a coming decade that witnesses a growth in pedagogically based learning technologies.

Aim of the Project

The aim of this AUTC project is to assist university teachers to create high quality flexible learning experiences for students by providing a range of generic resources/tools/templates that draw upon successful flexible learning projects that utilise ICT and which may be generalised beyond the scope of the individual project. Successful ICT-based learning projects are those that facilitate high quality learning experiences for students.

The study conducted by Alexander and McKenzie (1998) highlighted that one contributing factor towards a successful learning outcome for an ICT-based learning project was the learning design employed. Thus, this project will strive to accomplish its aim through the following process:

1. The identification of a range of learning designs that have been demonstrated to contribute to high quality learning experiences and which can be applied generically;
2. The design and subsequent development of a series of re-usable software, templates and/or exemplars for the learning designs previously identified; and
3. The development of a series of guidelines for good practice in the use of or implementation of the software, templates and/or exemplars in new contexts.

Crucial to the success of this project is the development of an evaluation instrument with a twofold purpose:

1. To facilitate the identification of learning designs that foster high quality learning experiences; and
2. to provide a mechanism to determine whether such learning activity designs have the potential for re-development in a more generic form.

This evaluation mechanism is referred to by the project as an *Evaluation and Redevelopment Framework* (ERF).

For the scope of this project, the terms "learning designs", "high quality learning experiences", and "flexible learning" are defined as follows:

Learning designs: refer to a variety of designs that support student learning experiences. Learning designs may be at the level of a whole subject, subject component or learning resource (Project Brief, 2000).
High quality learning experiences: refer to experiences resulting from an environment, which encourages students to seek understanding rather than memorisation (only for the purposes of assessment), and which encourage the development of lifelong learning skills.
Flexible learning: refers to an educational approach that meets the diverse needs of students. The project is to focus on how ICT can be used to design flexible opportunities for students.

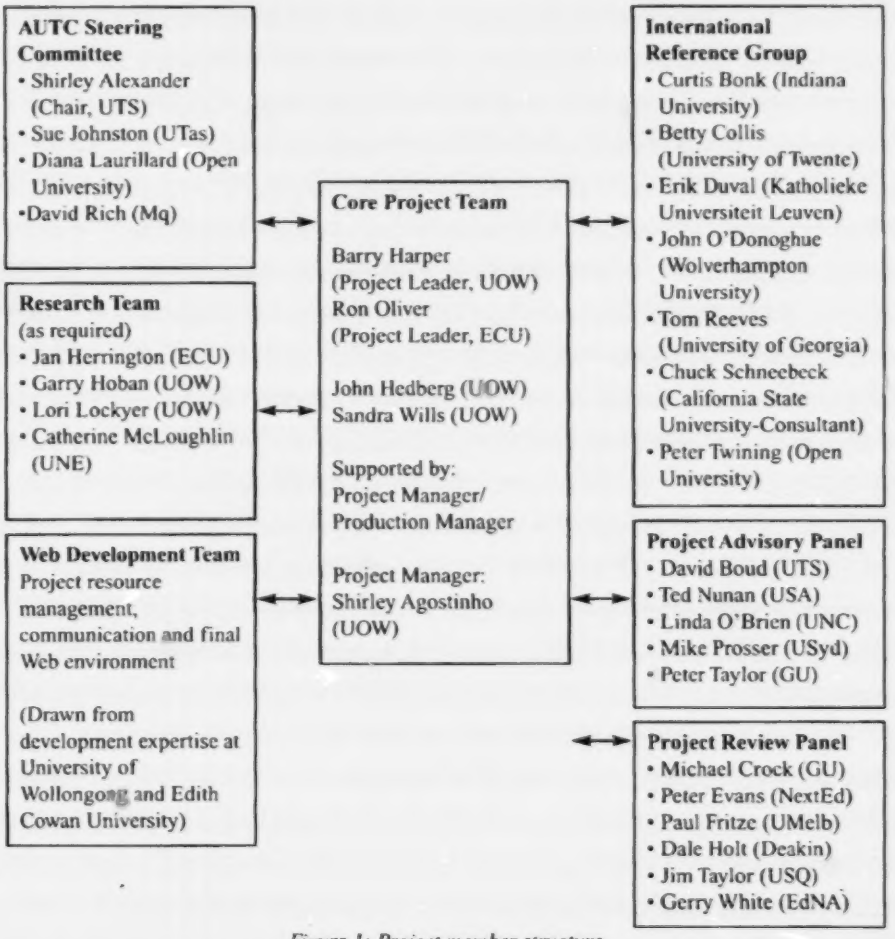
Project Structure

The project began in November 2000 and is structured against four milestones:

- *Milestone One (May 2001):* Development of the Evaluation and Redevelopment Framework
- *Milestone Two (November 2001):* Identification and documentation of learning designs that foster high quality learning experiences and that have the potential for redevelopment in a more generic form.
- *Milestone Three (June 2002):* Development of a selected number of learning designs in a generic form to at least prototype stage.
- *Milestone Four (December 2002):* Completion of the development of learning designs in a more generic form and finalisation of a web site that will store the project's developed resources.

The project team structure established for this project is illustrated in the Figure 1.

The Core Project Team is responsible for the overall plan and progress of the project. The Research Team has worked closely with the Core Team in the development of the project's ERF. The Project Advisory Panel has provided ongoing guidance and advice to the Core Team in the conceptualisation and development of the ERF and the Project Review Panel and International Reference Group have served as reviewers of the ERF.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• Diana Laurillard (Open University)
•David Rich (Mq)
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• Catherine McLoughlin (UNE)
Web Development Team
Project resource management, communication and final Web environment
(Drawn from development expertise at University of Wollongong and Edith Cowan University)
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Ron Oliver (Project Leader, ECU)
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• Peter Evans (NextEd)
• Paul Fritze (UMelb)
• Dale Holt (Deakin)
• Jim Taylor (USQ)
• Gerry White (EdNA)

Figure 1: Project member structure

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Development of the Evaluation and Redevelopment Framework

Characterising High Quality Learning

A major project activity has been the critique of what constitutes "high quality learning". Professor Boud and Associate Professor Prosser were commissioned, as two leading thinkers about learning in higher education in Australia, to develop a paper on high quality learning. Their ideas together with feedback from the project team led to the development of a set of "Key Principles for High Quality Student Learning in Higher Education—from a Learning Perspective" (Boud & Prosser, 2001). The key principles describe four main characteristics that underpin high quality learning in the higher education context. The principles are elaborated through a series of questions that provide a lens through which learning environments can be explored. The four principles are holistic in that they incorporate both learning outcomes and learning processes and are based upon an experience-based learner-centred view of learning. The four principles are outlined below in the form of descriptions of high quality learning activities.

High quality learning activities:

1. **Engage learners through:**
   - Building on their learning intents generally and their particular expectations of the activity in question;
   - Acknowledging and taking account of their prior experience, both their knowledge and experience of situations which might impinge on the present ones;
   - Mobilising their will and desire and developing some kind of emotional engagement with the task in hand;
   - Providing them with a sense of agency with respect to the activity or significant parts of it; and
   - Recognising that learning is a social act and involves other learners for at least part of the activity.

2. **Acknowledge context through:**
   - Involvement with problems in context;
   - Recognising the context of the learner (who may see themselves as decontexualised);
   - Maintaining an awareness of the cultural assumptions and stereotyping which may be incorporated in the context;
   - Situating learning tasks within disciplinary or professional or practical knowledge as appropriate;
   - Taking account of the site of application of what is to be learned (this poses different challenges when the learner is currently engaged in the site of application and when they are not);
   - Appreciating the knowledge demands on students and equipping them to deal with them; and
   - Ensuring that there is a clear alignment between the activities in which students will be engaged and the ways in which they will be assessed.

3. **Challenge learners through:**
   - Prompting them to seek and discern variation in the knowledge and experiences in which they are involved;
   - Questioning the assumptions they bring to the activity and the assumptions they develop through it;
   - Encouraging them to see what is provided as a means to wider ends and go beyond what is provided; and
   - Creating situations in which they are required to take responsibility for their own learning and to shape the activity to their own ends.

4. **Involve practice through:**
   - Demonstrating what has been learned for themselves and for others;

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- Gaining feedback at strategic points in learning, but also recognising that finding ways of gaining feedback for one self other than that provided is also important;
- Reflecting on and making sense of their experiences. Continuous exposure to new activities without integration and consolidation within the learner's framework is not conducive to good learning; and
- Developing confidence in performance from practice.

Developing the ERF Instrumentation

Two workshops were conducted early in 2001 to build and review the Evaluation and Redevelopment Framework (ERF). Members of the Core Team, Research Team and Project Advisory Panel attended each workshop. The purpose of the first workshop was to develop an initial draft of the ERF. Whilst the Boud and Prosser principles formed the basis of the ERF, the following issues raised at the workshop also needed to be incorporated into the instrument:

- How technology is embedded in a learning design and how its use supports or hinders the learning experience.
- The issues of scalability, transferability, and technology affordances.
- To determine suitability of redevelopment of a learning design, the ERF should provide a mechanism to glean the critical design features from a learning design and consider how these design features could be implemented in a more generic form.
- To place the review framework within a staged process which might inform the project through a series of critical decision points.

The first complete version of the ERF was devised by the Core Team and Research Team after the first workshop. This version was formatively evaluated in the second workshop (scheduled one month after the first). The Research Team also examined existing evaluative instruments to determine whether these could inform and/or be incorporated into the project's ERF (Oliver, McLoughlin & Herrington, 2001). The findings revealed that overall, there appeared to be no significant gaps in the project's ERF.

Since the second workshop (held at the end of April 2001) the ERF has undergone further review and formative evaluation. Feedback from the Project Review Panel and International Reference Group has been considered and via discussions with the Core Team, Research Team and Steering Committee, a revised version of the ERF has been developed. A challenge for the project has been how to elucidate the key and/or unique elements of the learning design that enable the facilitation of a high quality learning experience for students. The strategy thus adopted is to request a description of the learning design by the designer(s) in a contextualised form in terms of the following:

- The learning activities (and their sequence) that students are required to do.
- The resources that are required to support the activities.
- The support mechanisms that characterise the learning design, e.g., role of the instructor, establishment of collaborative teams, etc.

In addition, all resources utilised by the students along with any evaluation data or findings are also to be submitted.

The ERF is to be implemented in two phases. The purpose, process and outcome for each phase are outlined in the following table.

PHASE	PURPOSE	PROCESS	OUTCOME
Phase 1	• Identify and describe the learning design • Assess the data sources provided and determine whether to proceed to Phase 2	Completion of two instruments: 1. *Learning Design Submission Form* – to be completed by the designer(s) of the learning design 2. *Learning Design Assessment Form* – to be completed by the Project Manager on receipt of the completed *Learning Design Submission Form*	Detailed description of the learning design from the designer(s) Decision whether to proceed to Phase 2 (If to proceed to Phase 2, details about Evaluation Team specified.)
Phase 2	Evaluation of the learning design in terms of: • Its potential to facilitate high quality learning experiences for students. • Its suitability for redevelopment in a more generic form	Completion of one instrument: *Learning Design Evaluation Form* The instrument comprises eight questions: • Questions 1 to 4 address the potential of the learning design to foster high quality learning • Question 5 addresses how the technologies employed facilitate the learning design • Questions 6 and 7 are designed to elucidate the key and/or unique elements of the learning design • Question 8 requires a judgement to be made about whether the learning design is suitable for redevelopment in a more generic form The questions are to be answered by reviewing the submitted data sources and the completed *Learning Design Submission Form* The instrument is to be completed individually by two evaluators. The evaluators are to reach consensus and submit one completed *Learning Design Evaluation Form* to the Project Manager	• Judgement of the potential of the learning design to foster high quality learning. • Generic description of the learning design. • Judgement of the learning design's suitability for redevelopment in a more generic form

Table 1: ERF implementation

The Next Stage of the Project

The next stage of the project will focus on applying the ERF to a number of Learning Design exemplars. The outcome from this activity is intended to provide:

1. Documentation of Learning Designs identified as having potential for redevelopment in a more generic form; and
2. A formative evaluation of the ERF and its operationalisation to a level of "robustness" deemed adequate by the project team.

As this paper goes to press, the Project is in the process of conducting the following activities:

- Identifying potential ICT-based learning exemplars for examination.
  It is anticipated that twenty to thirty examples may be evaluated. Some strategies employed to compile the list of exemplars include: nominations made from the project team, review of past CUTSD (Committee for University Teaching and Staff Development) projects; and a review of relevant literature sources.
- Establishing the ERF Evaluation Team.
  The ERF Evaluation Team will comprise national and international experts in the use of information and communication technologies for teaching and learning in Higher Education.

Nominations have been made by the Project Core Team and by participants who attended the NCODE-Flexible Learning Australasia 26 conference in July 2001.

- Reviewing and finalising the processes associated with the implementation of the ERF, compiling the evaluations, and making final decisions about the learning designs that merit redevelopment.

The ERF instrumentation, ERF Evaluation Team and the list of ICT-based learning exemplars to be evaluated by the project is accessible from: http://www.digitalmedia.uow.edu.au/autc.html.

The project is also examining work being conducted by a number of national and international projects working in similar fields, for example, Ariadne (Online), MERLOT (Online) LRX: (Online) and SoURCE (Online). It is intended to continue additional, purposeful and well-structured interaction with these groups to ensure dissemination and sharing of results.

As the process of submission and evaluation of learning designs is worked through, the project team will also review the potential of developers (with due consideration of the specific knowledge and skill of the original developers and their intellectual property) and assess the specific development skills directly available to the project team. Additionally, the quality of design necessary for this level of production will be an important consideration.

As the project proceeds, we are also considering the planning of support structures to facilitate the adoption and use by teachers of the resources that are developed. At this stage, the project has established links with NCODE to facilitate this process and will work with this group to ensure the maximum potential is obtained for the uptake of the project's outcomes.

References

Alexander, S. & McKenzie, J. (1998) *An Evaluation of Information Technology Projects for University Learning*. Canberra: Australian Government Publishing Service..

Ariadne Foundation. [Online]. Available: http://ariadne.unil.ch/ [September 2001].

Baldwin, P. (1991). *Higher Education: Quality and diversity in the 1990's*. Canberra: Australian Government Publishing Service.

Bonk, C. J., & Cummings, J. A. (1998). A dozen recommendations for placing the student at the center of Web-based instruction. *Educational Media International, 35*(2), 82-89.

Bostock, S. (1998). Constructivism in mass education: A case study. *British Journal of Educational Technology, 29*(3), 225-240.

Boud, D., & Prosser, M. (2001). *Key principles for high quality student learning in Higher Education—form a learning perspective*. Paper presented at a workshop held on April 27, 2001 for the AUTC funded project: Information and Communication Technologies and Their Role in Flexible Learning, Sydney, Australia.

Bracewell, R., Breuleux, A., Laferrière, T., Benoit, J., & Abdous, M. (1998). *The emerging contribution of online resources and tools to classroom learning and teaching* (Report submitted to SchoolNet/Rescol by TeleLearning Network Inc.) [Online]. Available: http://www.tact.fse.ulaval.ca/ang/html/review98.html [September 2001].

Collis, B. (1998). New didactics for university instruction: why and how? *Computers & Education, 31*(4), 373-393.

Corderoy, R. M. (Ed.). (1998). *FlexibilITy: The next wave?* Proceedings of the 15th annual Australian Society for Computers in Learning in Tertiary Education '98 conference. University of Wollongong, 14-16 December.

Cunningham, S. (1998). Technology and delivery: Assessing the impact of new media on "borderless" education. *Australian Universities' Review, 41*(1), 10-13.

Cunningham, S., Tapsall, S., Ryan, Y., Stedman, L., Bagdon, K., & Flew, T. (1998). *New media and borderless education: A review of the convergence between global media networks and higher education provision*. Evaluations and Investigations Program 97/22. Canberra: Australian Government Publishing Service.

Duffy, T., & Cunningham, D. (1996). Constructivism: Implications for the design and delivery of instruction, *Handbook of research for educational telecommunications and technology* (pp. 170-198). New York: MacMillan.

Duschatel, P., & Spahn, S. (1996). *Design for Web-based learning.* Paper presented at the WebNet'96, San Francisco, USA.

Flew, T. (1998). New media and borderless education. *Australian Universities' Review, 41*(1), 7-9.

Green, K. (1998). Colleges struggle with IT planning. *The Campus Computing Project.* [Online]. Available: http://www.campuscomputing.net/summaries/1998/index.html [September 2001].

Gold, B. (1999). Punctuated legitimacy: a theory of educational change. *Teachers College Record, 101*(2), 192-219.

Levin, J. (1999). Dimensions of network-based learning. *International Journal of Educational Technology, 2*(1).

LRX. [Online]. Available: http://www.lrx.com.au/ [September 2001].

MackNight, C.B. (1996). *Changing educational paradigms.* In A. Christie, P. James & B. Vaughan (Eds.), Making new connections. Proceedings of the 13th annual Australian Society for Computers in Learning in Tertiary Education '96 conference. pp. 16-33. University of South Australia, 2-4 December.

McNaught, C. (1998, June). The impact of information technology on practices and policy in higher education. In T. Ottman, & I. Tomek (Eds.), Proceedings of ED-MEDIA & ED-TELECOM 98, 10th World Conference on Educational Multimedia and Hypermedia & World Conference on Educational Telecommunications (pp. 940-945). Freiburg, Germany: Association for the Advancement of Computing in Education.

MERLOT- *Multimedia Educational Resource for Learning and Online Teaching.* [Online]. Available: http://taste.merlot.org/ [September 2001].

Mioduser, D., Nachmias, R., Oren, A., & Lahav, O. (1999). *Web-based learning environments: Current states and emerging trends.* Paper presented at the Ed-Media 1999. World Conference on Educational Multimedia, Hypermedia and Telecommunications, Seattle, USA.

Nicoll, K. (1998). "Fixing" the "Facts": Flexible learning as policy invention. *Higher Education Research and Development, 17*(3), 291-304.

Oliver, R. and C. McLoughlin (1999). Curriculum and learning-resource issues arising from the use of Web-based course support systems. *International Journal of Educational Telecommunication 5*(4), 419-438.

Oliver, R., McLoughlin, C., & Herrington, J. (2001). *Review of Evaluation Frameworks.* Paper presented at a workshop held on April 27, 2001 for the AUTC funded project: Information and Communication Technologies and Their Role in Flexible Learning, Sydney, Australia.

Project Brief—*Information and Communication Technologies and Their Role in Flexible Learning.* (2000). [Online]. Available: http://www.autc.gov.au/pr/flexbriefs.htm [September 2001].

Salomon, G. (1998). Novel constructivist learning environments and novel technologies: Some issues to be concerned with. *Research Dialogue in Learning and Instruction, 1*, 3-12.

SoURCE - *Software Use, Re-Use and Customisation in Education* [Online]. Available: http://www.source.ac.uk/ [September 2001].

Tsichritzis, D. (1999). Reengineering the university. Communications of the ACM, *42*(6), 93-100.

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